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10/790,146

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Eugene I. Chong

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EXAMINER

WU, YICUN

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/790,146	<b>Applicant(s)</b> CHONG ET AL.	
	<b>Examiner</b> YICUN WU	<b>Art Unit</b> 2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2, 4-9 and 14-20 is/are rejected.
- 7) ☒ Claim(s) 10-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **III. DETAILED ACTION**

1. Claims 1-2, 4-20 are presented for examination.
2. The claims and only the claims form the metes and bounds of the invention. “Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)” (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. The Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

#### ***Request for Continued Examination***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 January 2009 has been entered.

#### **Claim Objections**

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4. Claims 1, 5 and 15-16 are objected to because of the following informalities: the Examiner is not clear about the meaning of the claim. “a secondary index for” and “guess-database address value”.

Claim 4 are objected to because of the following informalities: the Examiner is not clear about the meaning of the claim. “quess”

Appropriate clarification/correction is required.

**Claim Rejections - 35 USC 101**

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

**5. Claims 1-2, 4-14, 17-18 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.**

A § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. If neither of these requirements is met by the claim, the method is not a patent eligible process under § 101 and should be rejected as being directed to nonstatutory subject matter.

As to **claims 1-2, 4-14, 17-18**, “A method...” claimed as method claims that recited purely mental steps. The claim lacks the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. As such, they fail to tie with a statutory category. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

**Claim Rejections - 35 USC § 103**

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 5-9 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (U.S. Patent 6,266,660) in view of Nagavamsi al. (U.S. Patent 6,631,366).

As to Claims 1, 5, 15 -16, Liu et al. discloses a system for organizing and accessing a database, the system comprising:

a secondary index for a primary Btree, wherein the secondary index comprises a plurality of rows each comprising an index key value(col. 2, lines 30-45), and

a guess-database address value that represents a guess as to an address block of the primary Btree where a row may be found (col. 2, lines 30-45),

where data stored in the database is retrieved using the secondary index for the primary Btree (col. 2, lines 30-45).

Liu et al. does not explicitly teach a B+tree.

Nagavamsi teaches a B+tree (col. 2, lines 21-25).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Liu et al. with a B+tree.

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It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Liu et al. by the teaching of Nagavamsi because providing the B+tree allows improved performance in execution speed and reliability as taught by Nagavamsi (Col. 2, line 1-9).

As to Claims 2 and 14, Liu et al. as modified teaches a system, wherein the guess-database address values are 4 bytes of the address blocks in the primary B+tree (it is well known in the art to store 4 bytes of the database addresses).

As to Claims 4, Liu et al. as modified teaches a system, further comprising:  
a guess-database address quality statistic for the secondary index (Liu col. 2, lines 30-45),, where the guess-database address quality statistic represents a ratio (using statistic to represents a ration is well known in the database) of how often the guesses as to where rows may be found in an address block of the primary B+tree are accurate (Nagavamsi Col. 2, lines 25-37).

As to Claims 17-20, Liu et al. as modified teaches a system wherein each row in the plurality of rows further comprising a mapping table rowid value that identifies a row within a mapping table (Nagavamsi Col. 2, lines 25-37).

As to Claims 6, Liu et al. as modified teaches a system further comprising:

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inserting a row of the secondary index, wherein inserting the row comprises inserting a row comprising an index key value, a mapping table rowid value and a guess database address value (Nagavamsi col. 2, lines 25-36).

As to Claims 7, Liu et al. as modified teaches a system, further comprising:

deleting a row of the secondary index, wherein deleting the row comprises locating a row comprising an index key value and a mapping table rowid value and deleting the row (Nagavamsi col. 2, lines 25-36).

As to Claims 8, Liu et al. as modified teaches a system, further comprising:

updating the secondary index, wherein updating the secondary index comprises locating a row of the secondary index comprising an old index key value and a mapping table rowid value , deleting the row and inserting in the row a new index key value, a mapping table rowid value and a guess database address value (Nagavamsi col. 2, lines 25-36).

As to Claims 9, Liu et al. as modified teaches a system, wherein retrieving data stored in the database system further comprises:

obtaining a first guess database address value representing a first address block of the primary B+tree structure (Liu col. 2, lines 30-45);

searching the first address block of the primary B+tree for a row that contains a mapping table rowid value that is the same as a mapping table rowid value (Nagavamsi col. 2, lines 25-36)



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in the row where the first guess database address value is stored in the secondary index row (Liu col. 2, lines 30-45); and

if the mapping table rowid is found, then the correct row in the primary B+tree has been located and the data is retrieved (Liu col. 2, lines 30-45).

**Allowable Subject Matter**

7. Claims 10-13 would be allowable if rewritten in independent form and if rewritten to overcome the objection and rejection(s) under 35 U.S.C. 101 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yicun Wu whose telephone number is 571-272-4087. The examiner can normally be reached on 8:00 am to 4:30 pm, Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MOHAMMAD ALI can be reached on 571-272-4105. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Yicun Wu  
Patent Examiner  
Technology Center 2100

March 26, 2009

/Yicun Wu/

Primary Examiner, Art Unit 2169